



Air Force Integrated Infrastructure

Integrating Stovepipes into
Interoperable Infrastructure
Components

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Overview

- How we've built systems in the past
 - Stovepipes
 - Tunnel vision
- How the Air Force intends to build them in the future
 - Tightly integrated
 - Interoperable component-ware
- How we plan to implement an integrated infrastructure
- Current components
- Future components



How we've built systems in the past

- DoD has built systems in the past essentially in a vacuum
 - Tunnel Vision
 - No vision of capabilities already existing or capabilities which could benefit more than one system
 - We've built stovepipes



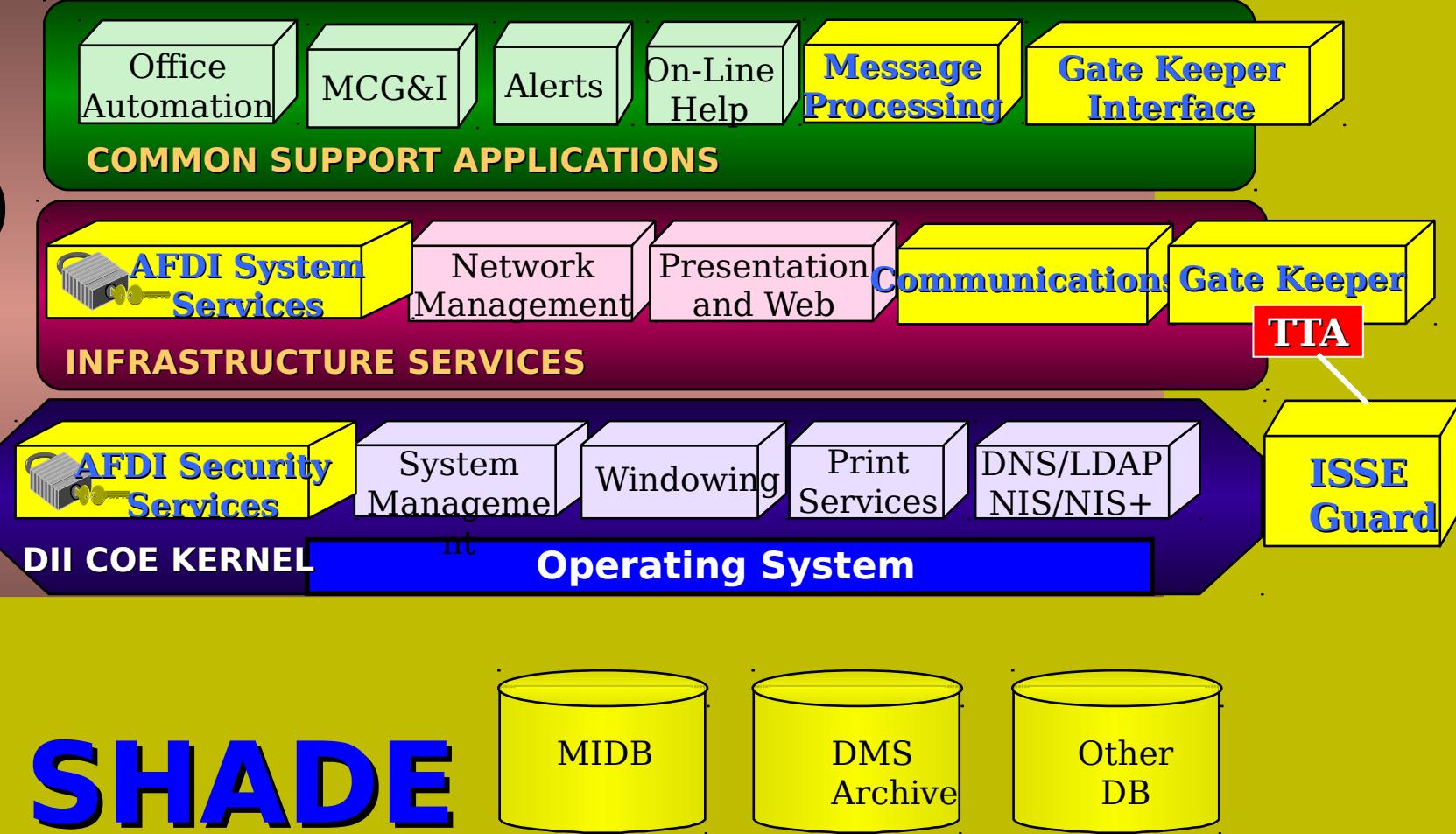
How we plan to build them in the future

- We must focus on the “bigger” picture when designing new capabilities
 - We should not be building systems but rather designing functional component-ware which interoperates within the overall DoD architecture
 - Where possible, re-use of existing capabilities
 - Where viable, Commercial Off The Shelf (COTS)
 - Why reinvent the wheel?



How we plan to build them in the future (continued)

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How we plan to implement an integrated infrastructure

- An Integration lab has been established at AFRL to integrate, test & evaluate, the interoperability of 497IOG sponsored programs
 - An initiative is underway to take those Air Force programs meeting integration and interoperability standards and install them as the base infrastructure for the new CAOC-X



Current infrastructure components

- AFDI
 - Provides the underlying infrastructure security and enterprise infrastructure management tools
- Broadsword/Gatekeeper
 - Provides secure transparent access to distributed information sources
- ISSE Guard
 - Provides secure, bi-directional information exchange between dissimilar security domains
 - TTA
 - Provides secure transparent access to distributed information sources across security domains as the ISSE interface to the Gatekeeper
- IET or AMHS for messaging (jury still out...)



Future Components

- 497th IOG has partnered with Penn State University's Applied Research Lab to build an all source fusion and correlation tool capable of sensor to shooter real time/near real time targeting of Time Critical Targets
 - Being developed as a new component of the infrastructure



Future Components (continued)

The goal is to provide Real Time/Near Real Time Sensor to Shooter Target Correlation



**Sensor-to-Decision
Maker-to-Shooter**



**Enroute Mission Planning
and Retargeting**



**Sensor-to-
Shooter**



Summary

- We can no longer continue to build systems in a vacuum
 - The resources are no longer available
- The pieces of one component must enhance and interoperate with the whole
 - Interoperable, integrated, component-ware to build on the overall infrastructure
- An underlying infrastructure must be assumed when building new components
 - New components must integrate into that infrastructure seamlessly
 - New components must enhance current infrastructure capabilities